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~~Combination instrument for a motor vehicle~~

I CLAIM

~~Patent claims.~~

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1. Combination instrument for a motor vehicle, in particular for a utility vehicle or a bus, having an LC display (1), characterized
- 10 1.1. in that a light-guiding plate (4) is provided,
- 1.1.1. into which ambient light is injected from inside or from outside the motor vehicle,
- 1.1.2. in which the injected ambient light is guided by means of total reflection at the side of the LC display (1) facing away from the viewer, and
- 15 1.1.3. which at the side of the LC display (1) facing away from the viewer has a coating (11) or a structure (13) for extracting the ambient light out of the light-guiding plate (4) there and for injecting the ambient light into the LC
- 20 display (1).
2. Combination instrument according to Claim 1, characterized in that the LC display (1) is of transmissive design.
3. Combination instrument according to one of the
- 25 preceding claims, characterized in that the light-guiding plate (4) is composed of plastic.
4. Combination instrument according to one of the preceding claims, characterized in that the coating (11) of the light-guiding plate (4) is white and highly
- 30 reflective.
5. Combination instrument according to one of the preceding claims, characterized in that analog display devices with scales (21, 22) are also provided, and in that the light-guiding plate (4) has a structure (13)
- 35 or coating (11) which is suitable for the selective

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extraction of light both in the region of the scales (21, 22) for their divisions or division indications, and in the region of the display face of the LC display (1).

5 6. Combination instrument according to one of the preceding claims, characterized

6.1. in that a photosensor (12) is provided which, without being directly influenced by the ambient light, senses the intensity of the
10 light present in the light-guiding plate (4),

6.2. in that LEDs (4, 15) are provided which inject their light into the light-guiding plate (4), and

6.3. in that the intensity of the light emitted by the LEDs (4, 15) is controlled as a function of the light sensed by the photosensor (12).
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7. Combination instrument according to Claim 6, characterized in that the LEDs (4, 15) emit white light for a neutrally colored transition from daylight
20 operation to night-time operation.

8. Combination instrument according to one of the preceding claims, characterized in that the light-guiding plate (4) extends out of the housing (23) of the combination instrument up to the windshield (24) of the motor vehicle in order to inject into the light-guiding plate (4) light which is incident into the
25 motor vehicle through the windshield (24).

9. Combination instrument according to Claim 8, characterized in that the light-guiding plate (4) which extends out of the housing (23) of the combination instrument is embedded in the dashboard of the motor vehicle, and the dashboard has, in the region in front of the windshield (24) an opening for the injection of the ambient light into the light-guiding plate (4).
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10. Combination instrument according to one of Claims 7 or 8, characterized in that the light-guiding plate (4) is provided in the region in front of the windshield (24) with suitable structures (29) or a
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coating (30) which reduces the refractive index, said structures (29) or coating (30) promoting the injection of the ambient light into the light-guiding plate (4).

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